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Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

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(88) Date of publication of the international search report:
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: GLYCININ-RICH AND β -CONGLYCININ-RICH VEGETABLE PROTEIN FRACTIONS

(57) Abstract: This invention relates to processes for preparing vegetable protein fractions suitable for use as functional food ingredients, novel vegetable proteins suitable for use as functional food ingredients, and food products containing the novel vegetable protein fractions. In one embodiment the protein fraction comprises from 40% to 80% by weight β -conglycinin. In another embodiment the protein fraction comprises 50% to 95% by weight glycinin.



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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2005/033437

A. CLASSIFICATION OF SUBJECT MATTER
INV. A23J3/16 A23L1/314

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A23J A23L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, FSTA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DD 247 835 A1 (ADW DER DDR, DD) 22 July 1987 (1987-07-22) page 2, line 1 - page 2, paragraph 8; claims 1,4,5; examples 1,6,7	1-18, 30-41
X	US 5 674 548 A (NAKAMURA ET AL) 7 October 1997 (1997-10-07) column 1, line 8 - line 13 column 2, line 61 - column 3, line 49 column 5, line 23 - line 53; example 1; tables 4,.8	1-18, 30-41

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
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- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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- "&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2005/033437

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>NAGANO T ET AL: "DYNAMIC VISCOELASTIC STUDY ON THE GELATION PROPERTIES OF BETA-CONGLYCININ-RICH AND GLUCININ-RICH SOYBEAN PROTEIN ISOLATES" JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, vol. 44, no. 11, 1996, pages 3484-3488, XP002073720 ISSN: 0021-8561 abstract page 3485, right-hand column - page 3487, left-hand column; table 1</p>	1-18, 30-41
X	<p>YAGASAKI K ET AL: "BIOCHEMICAL CHARACTERIZATION OF SOYBEAN PROTEIN CONSISTING OF DIFFERENT SUBUNITS OF GLYCININ" 1997, JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, PAGE(S) 656-660 , XP000876629 ISSN: 0021-8561 table 1</p>	1-18
X	<p>EP 1 323 353 A (FUJI OIL COMPANY, LTD) 2 July 2003 (2003-07-02) paragraph [0013]; claims 1,4,8,9,15</p>	1-18
X	<p>US 6 171 640 B1 (BRINGE NEAL A) 9 January 2001 (2001-01-09) cited in the application column 1, line 18 - line 29 column 3, line 25 - column 5, line 7 column 8, line 57 - column 9, line 36; claims</p>	1-18, 30-41
X	<p>SAITO T ET AL: "Novel method using phytase for separating soybean b-conglycinin and glycinin." BIOSCIENCE, BIOTECHNOLOGY, AND BIOCHEMISTRY XITUTO(A)FUJIOIL.CO.JP, vol. 65, no. 4, 2001, pages 884-887, XP002388675 page 885, left-hand column, paragraph 2 - page 886, left-hand column, paragraph 1; figure 2</p>	19-29
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INTERNATIONAL SEARCH REPORT

Int.al application No
PCT/US2005/033437

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>THIERING R ET AL: "Carbon dioxide induced soybean protein precipitation: protein fractionation, particle aggregation, and continuous operation." BIOTECHNOLOGY PROGRESS, vol. 17, no. 3, 2001, pages 513-521, XP002388676 page 513, left-hand column, line 1 - left-hand column, last paragraph page 516, left-hand column, paragraph 3 - page 517, left-hand column, paragraph 1 page 519, right-hand column, paragraph 2 - page 520, left-hand column, paragraph 2 -----</p>	19-29
X	<p>US 4 370 267 A (LEHNHARDT ET AL) 25 January 1983 (1983-01-25) column 2, paragraph 38-68; claims 7,10,11; example 2 -----</p>	1-41
X	<p>EP 0 797 927 A (FUJI OIL CO., LTD) 1 October 1997 (1997-10-01) page 3, line 16 - line 42; claims; examples -----</p>	19-29
E	<p>WO 2006/010049 A (MONSANTO TECHNOLOGY LLC) 26 January 2006 (2006-01-26) page 11, paragraph 1; claims 9,21; tables 8b,17 -----</p>	1-18, 30-41

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2005/033437

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-18,30-41

Protein fraction comprising 40%-80% beta-conglycinin and at least 10% glycinin

2. claims: 19-29

Protein fraction comprising 50%-95% of glycinin

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inter	application No
PCT/US2005/033437	

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DD 247835	A1	22-07-1987	NONE
US 5674548	A	07-10-1997	NONE
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US 6171640	B1	09-01-2001	US 2001024677 A1 27-09-2001
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